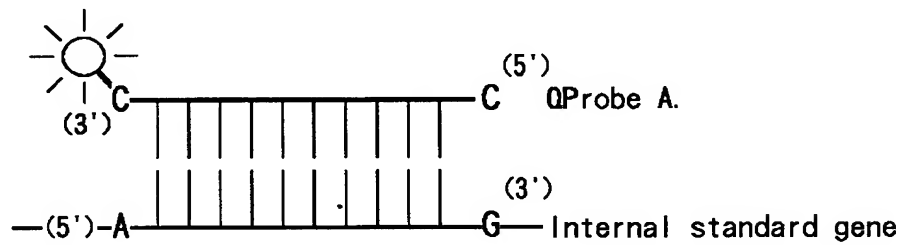
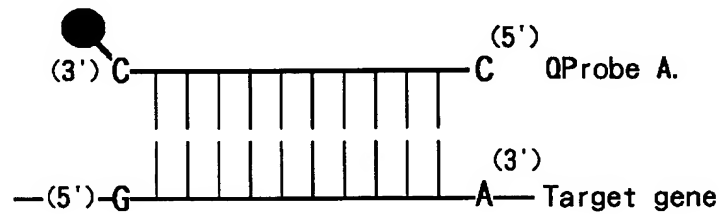


FIG. 1

In use of a QProbe for detecting a target gene



In use of a QProbe for detecting an Internal standard gene

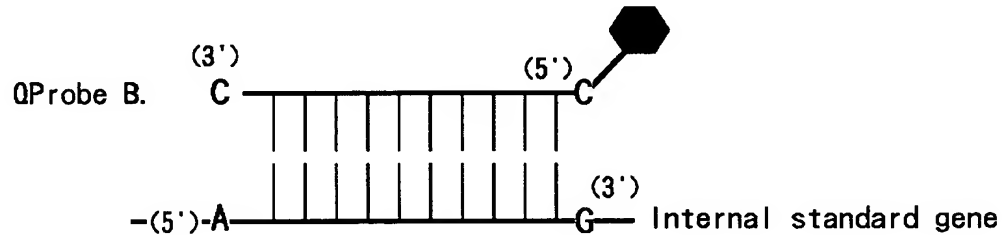
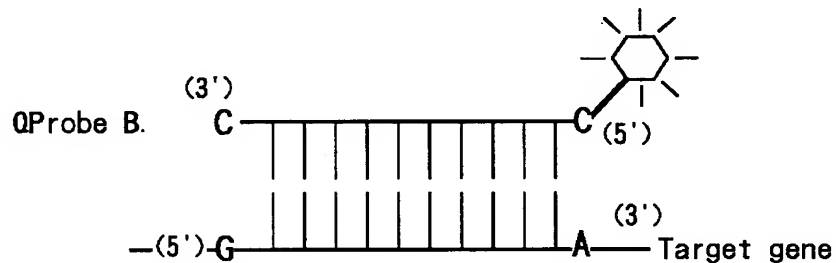
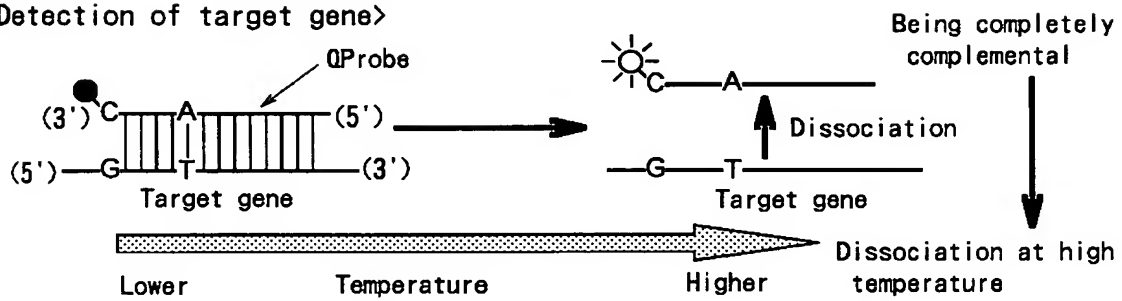


FIG. 2

<Detection of target gene>



<Detection of internal standard gene>

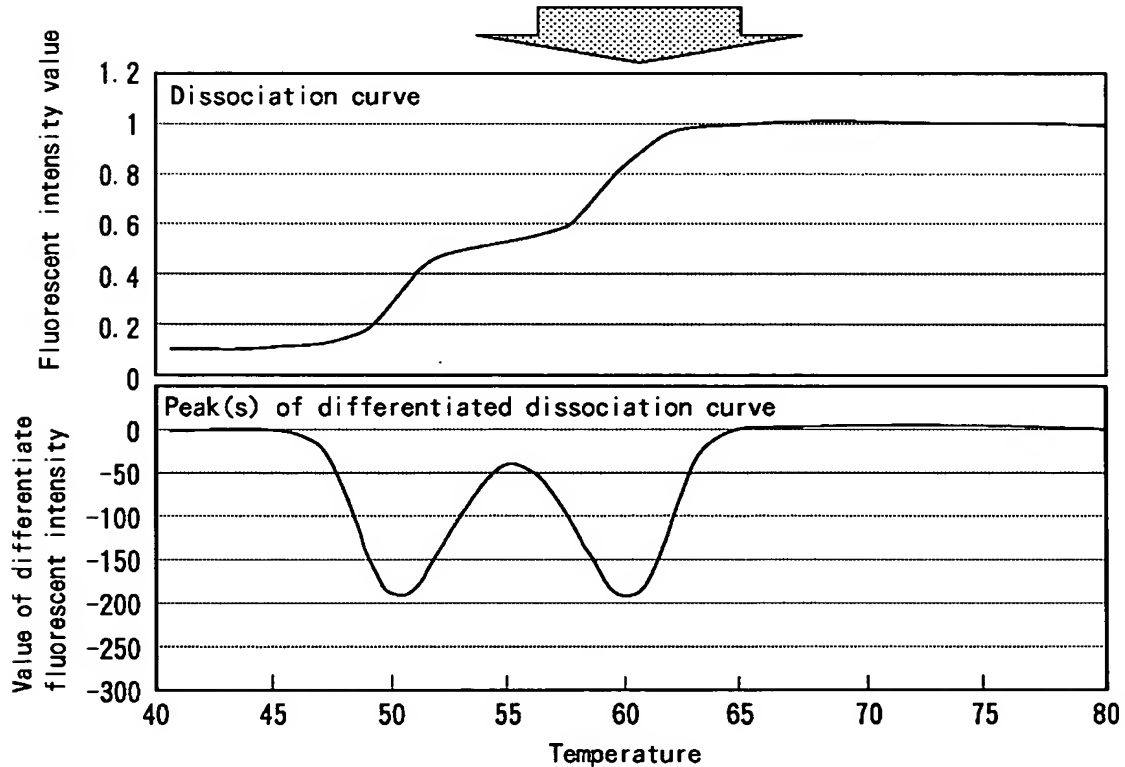
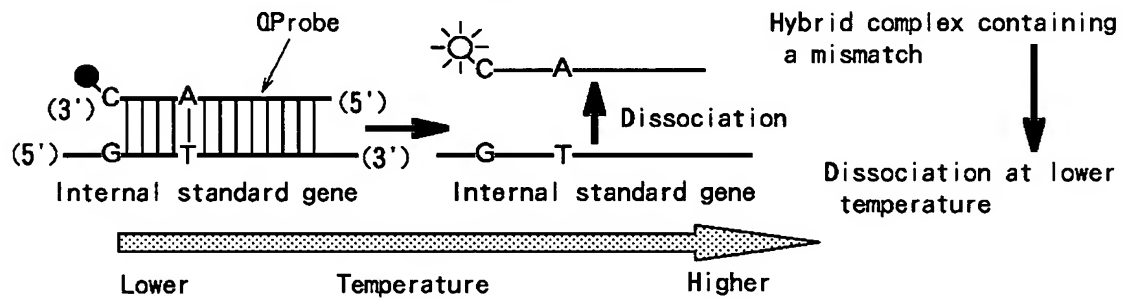
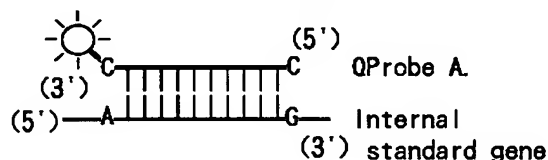
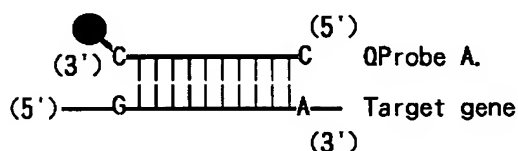


FIG. 3

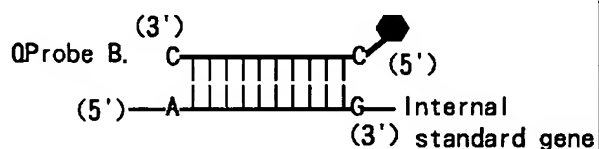
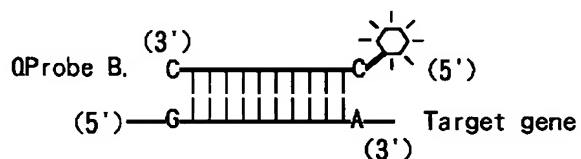
<In use of two QProbes>

In use of a QProbe for detecting a target gene



•Hybridization with an Internal standard gene results in no fluorescence-quenching.

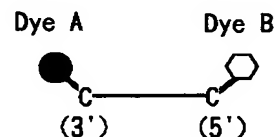
In use of a QProbe for detecting an internal standard gene



•Hybridization with a target gene results in no fluorescence-quenching.

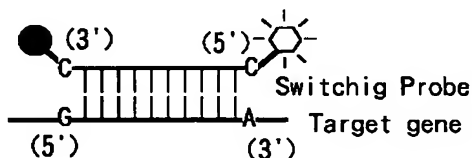
<In use of Switching QProbe>

Structure of Switching Probe

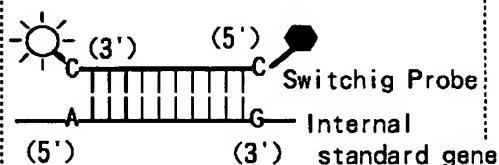


•Both end bases are cytosines
 •Both ends are labeled with different dyes respectively

In hybridization with a target gene



In hybridization with an Internal standard gene



•Hybridization with either of genes results in fluorescence-quenching of dye labeling either of ends.

FIG. 4

Target gene : Internal standard gene = 2:1

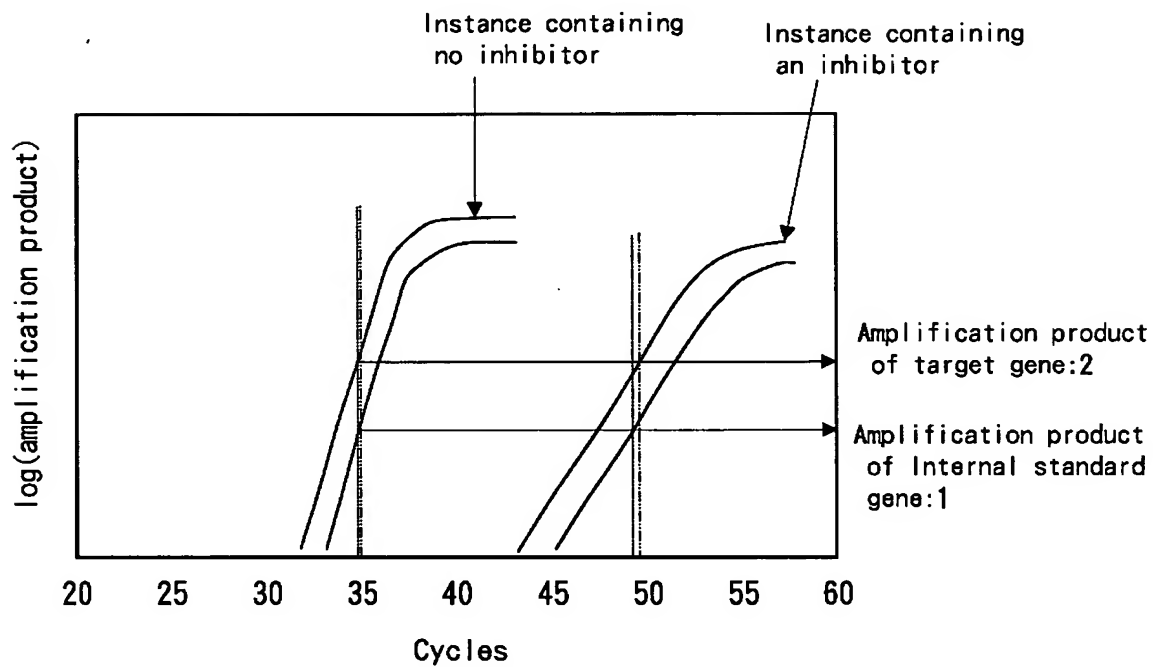


FIG. 5

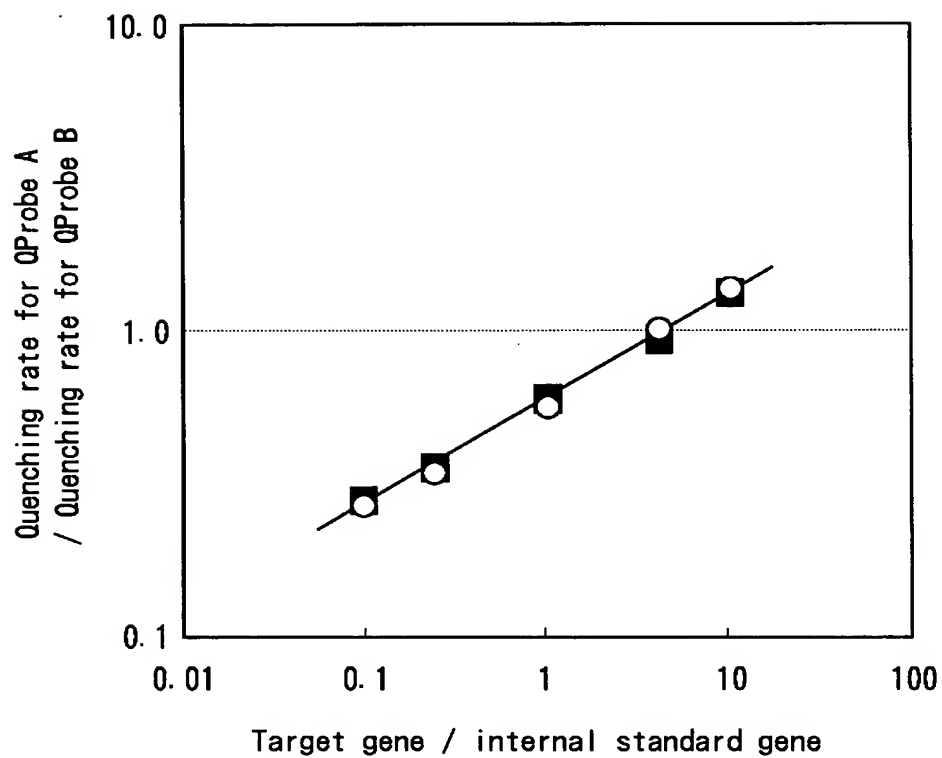


FIG. 6

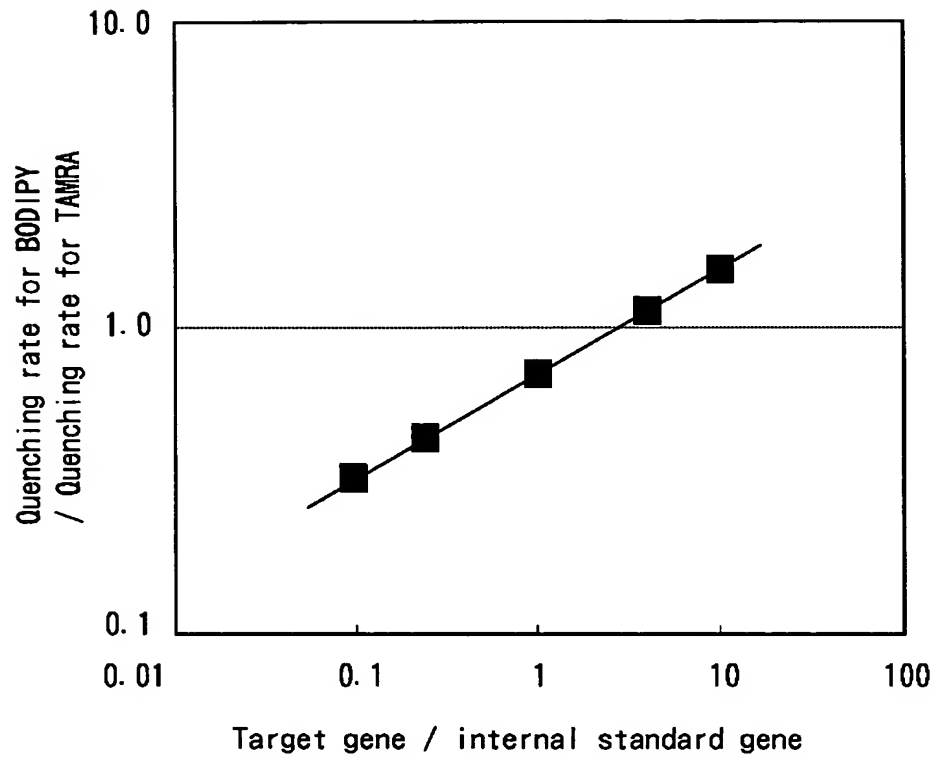


FIG. 7

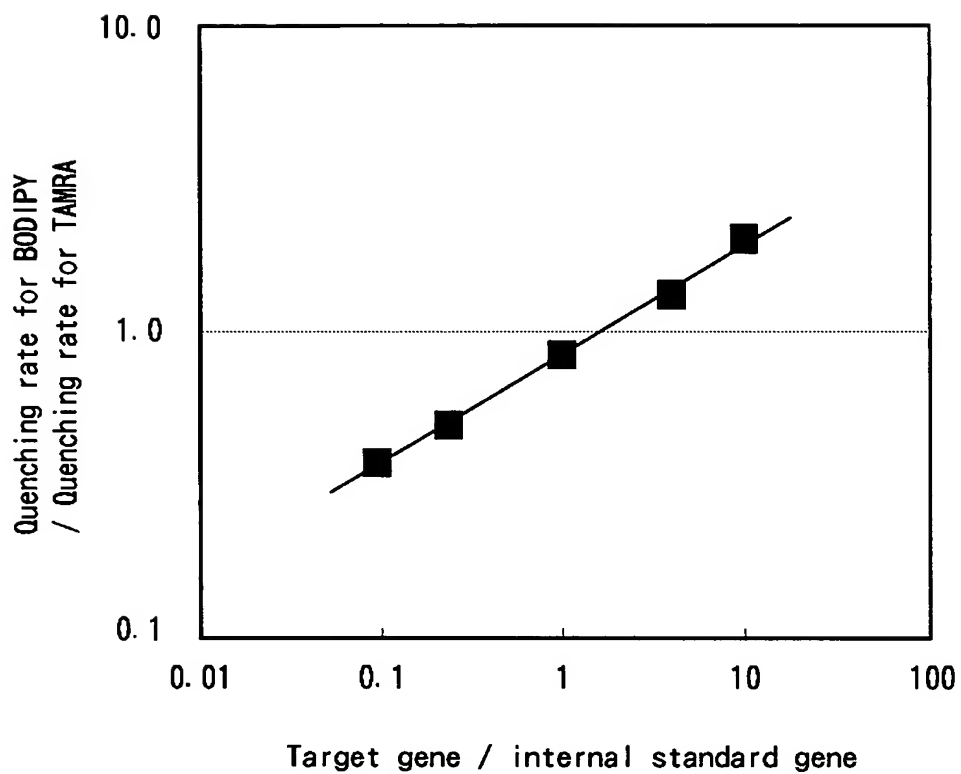


FIG. 8

<Experimental procedures>

Cell tube for measuring fluorescence



← Fluorescence-labeling probe

Fluorescent measurement(i)



← Target gene

Fluorescent measurement(ii)

FIG. 9

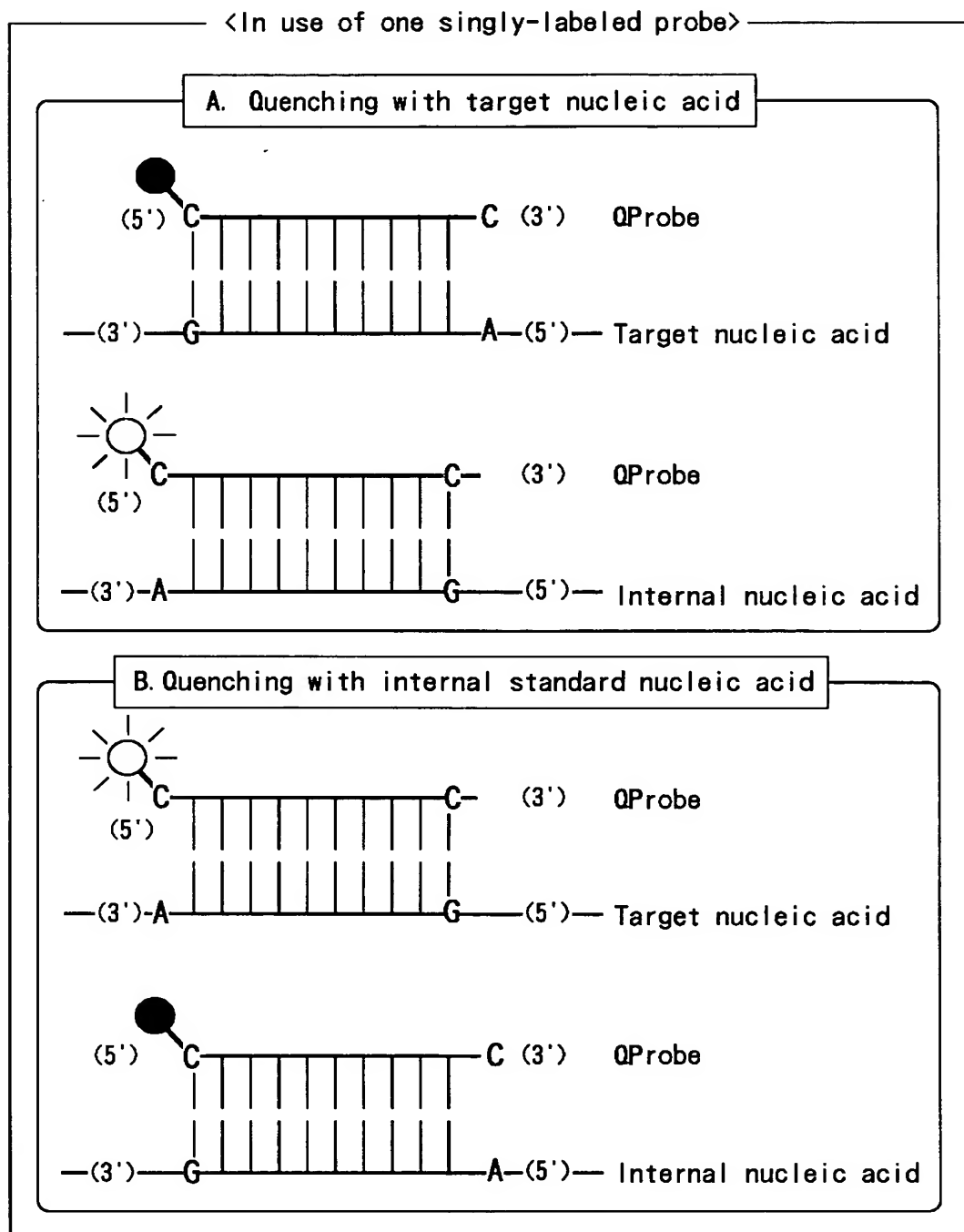
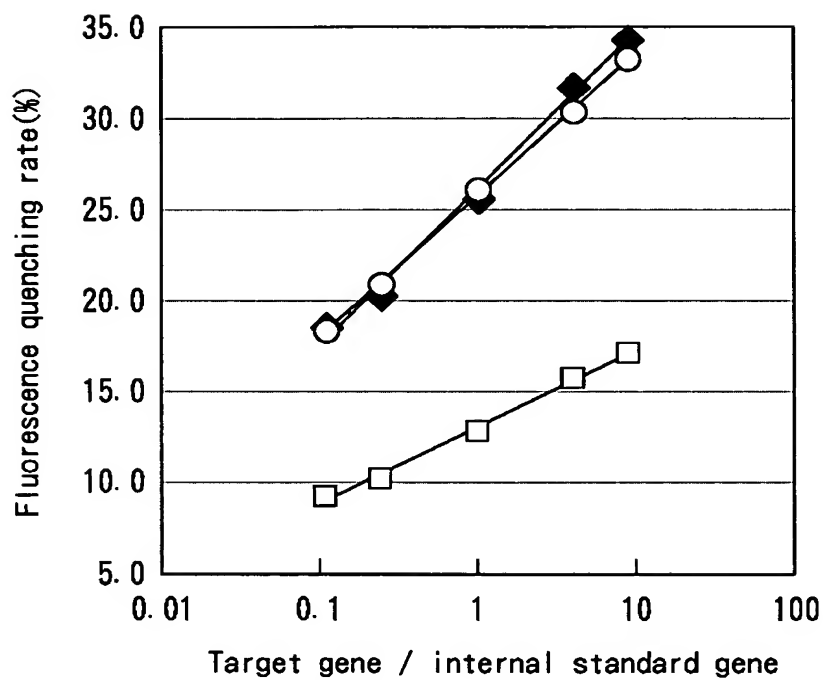


FIG. 10



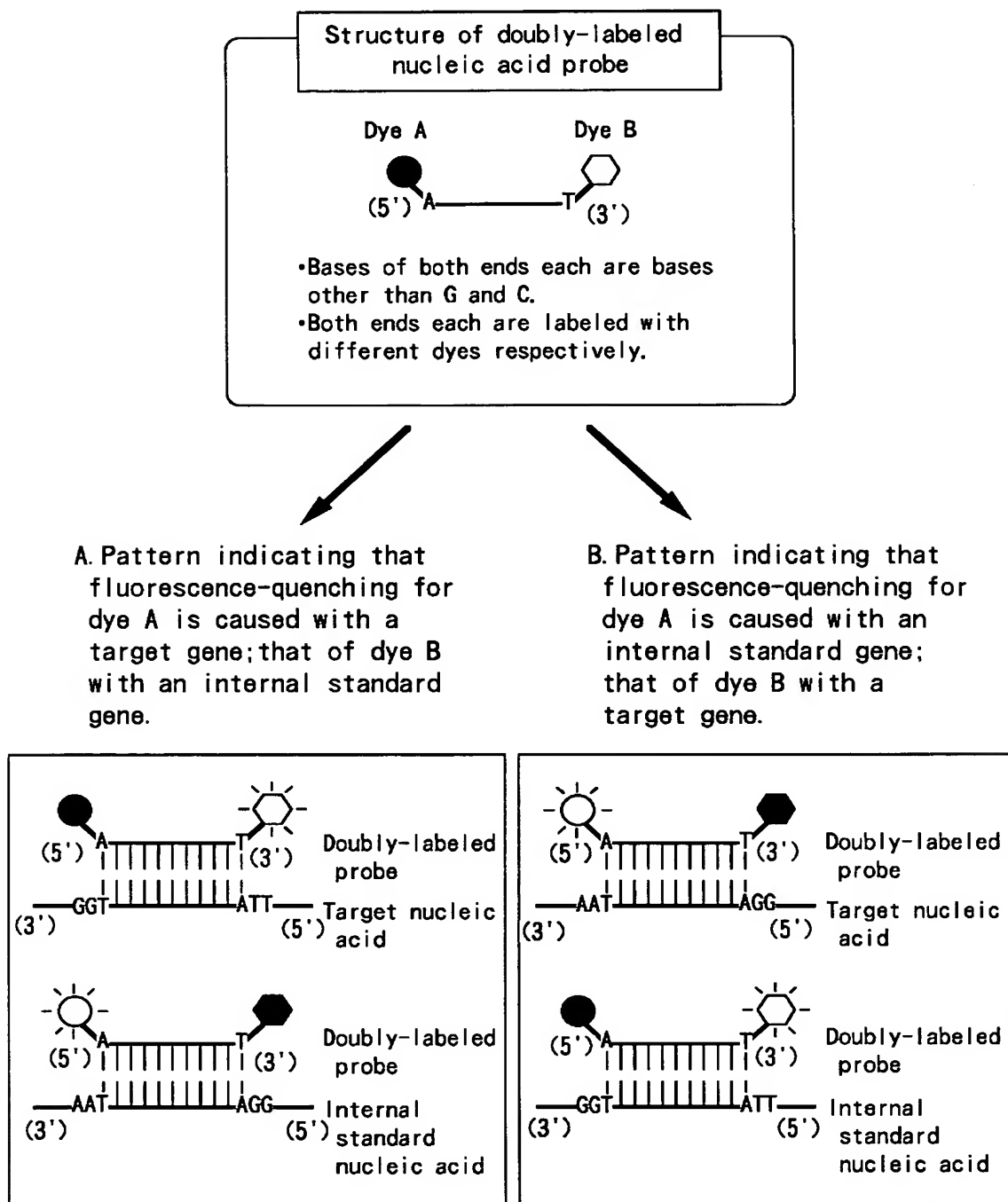


FIG. 12

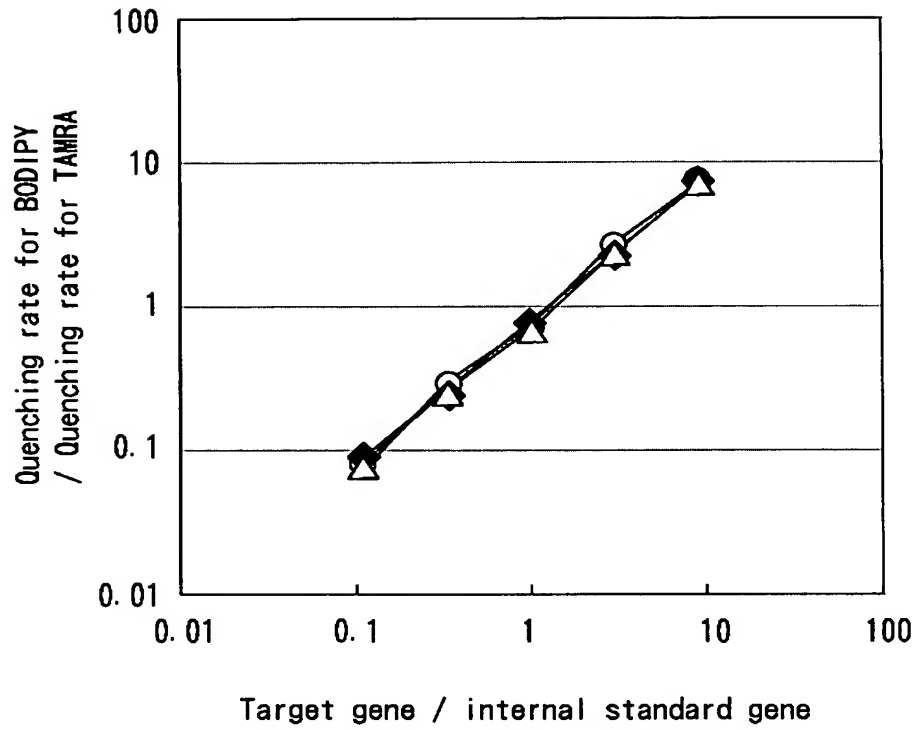


FIG. 13

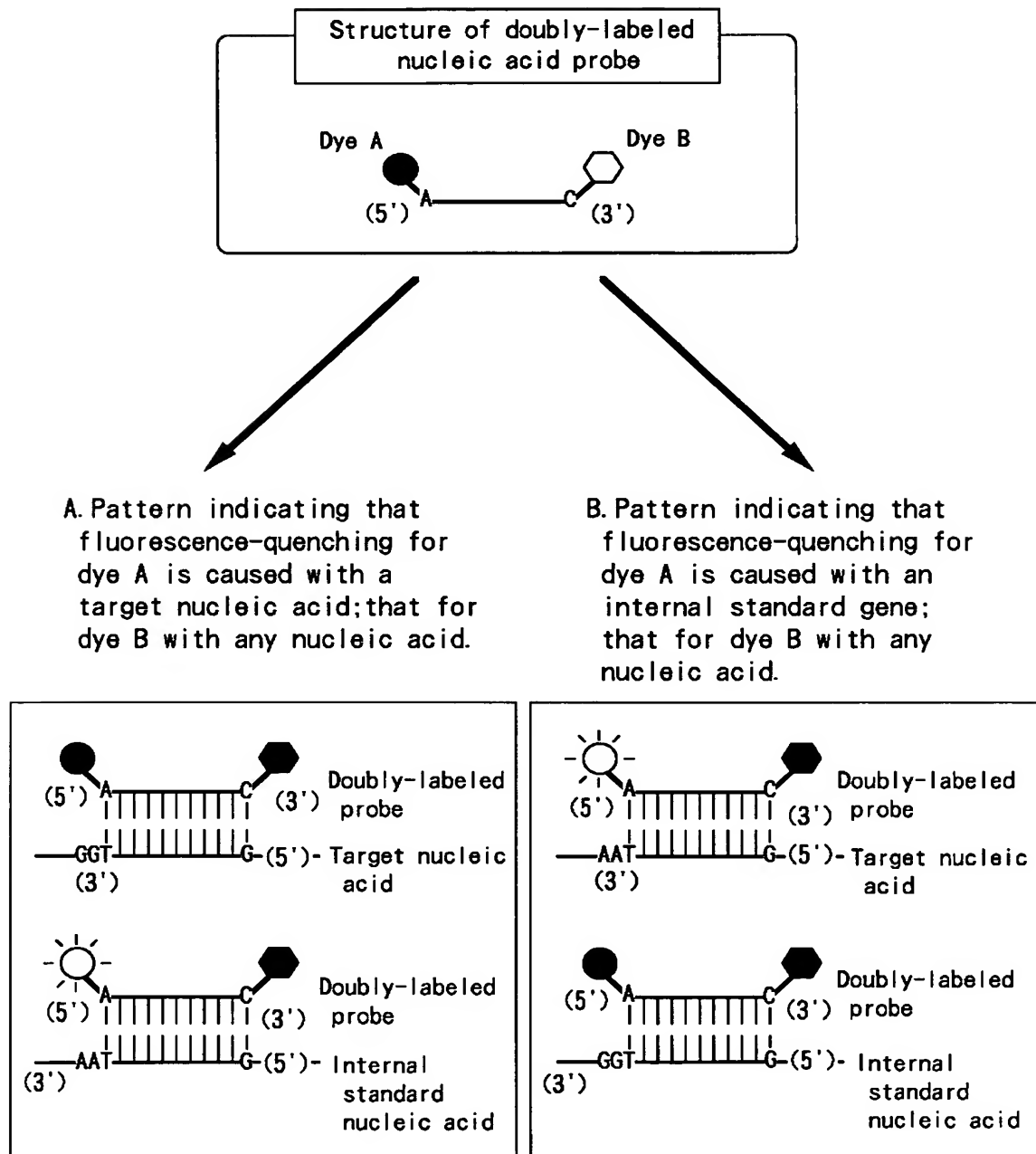


FIG. 14

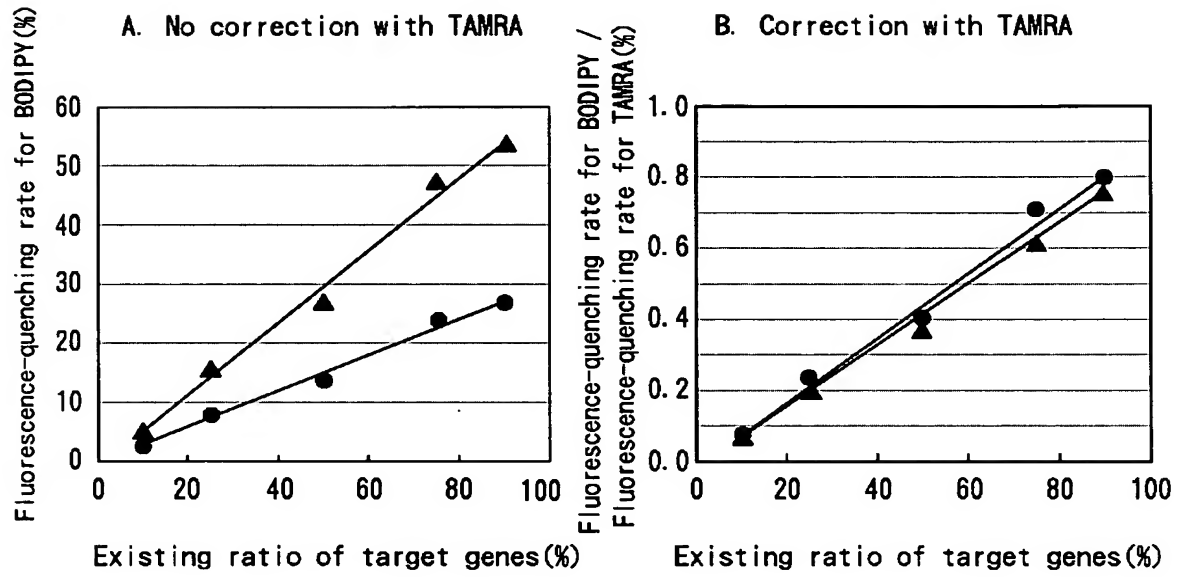
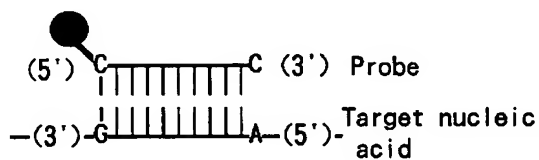


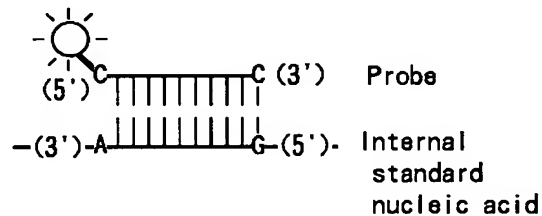
FIG. 15

A. Probe having two fluorescent changes

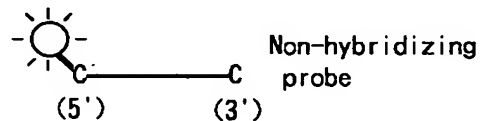
A. On hybridization with target nucleic acid



B. On hybridization with Internal standard nucleic acid



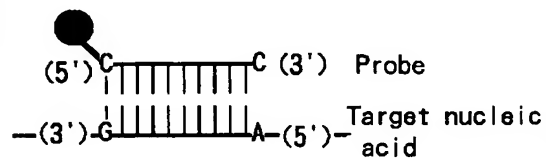
C. On no hybridization with any nucleic acid



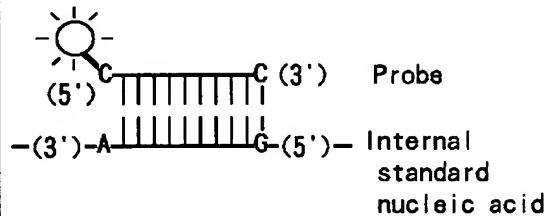
Fluorescent intensity for dye:
 Internal standard nucleic acid =
 non-hybridizing probe > target nucleic acid

B. Probe having three fluorescent changes

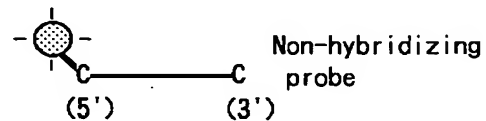
A. On hybridization with target nucleic acid



B. On hybridization with Internal standard nucleic acid



C. On no hybridization with any nucleic acid



Fluorescent intensity for dye:
 Internal standard nucleic acid >
 non-hybridizing probe > target nucleic acid

FIG. 16

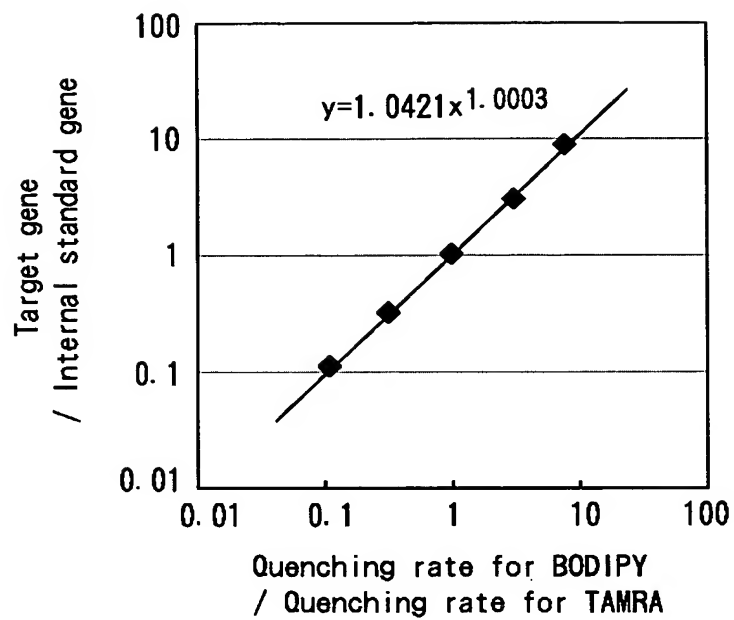
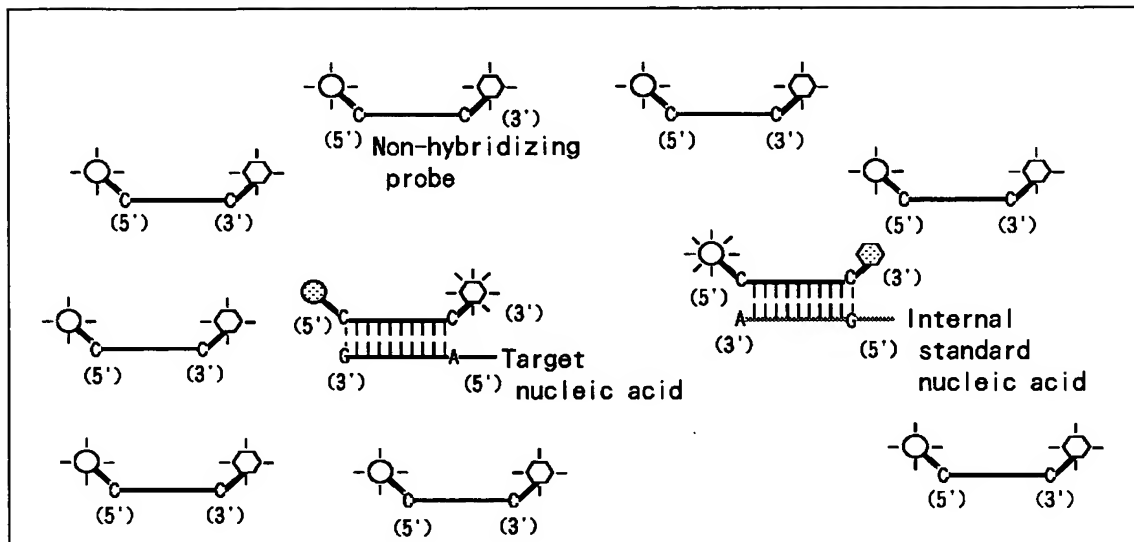


FIG. 17

A. In no presence of fluorescent substance-labeled nucleic acid probe



B. In presence of fluorescent substance-labeled nucleic acid probe

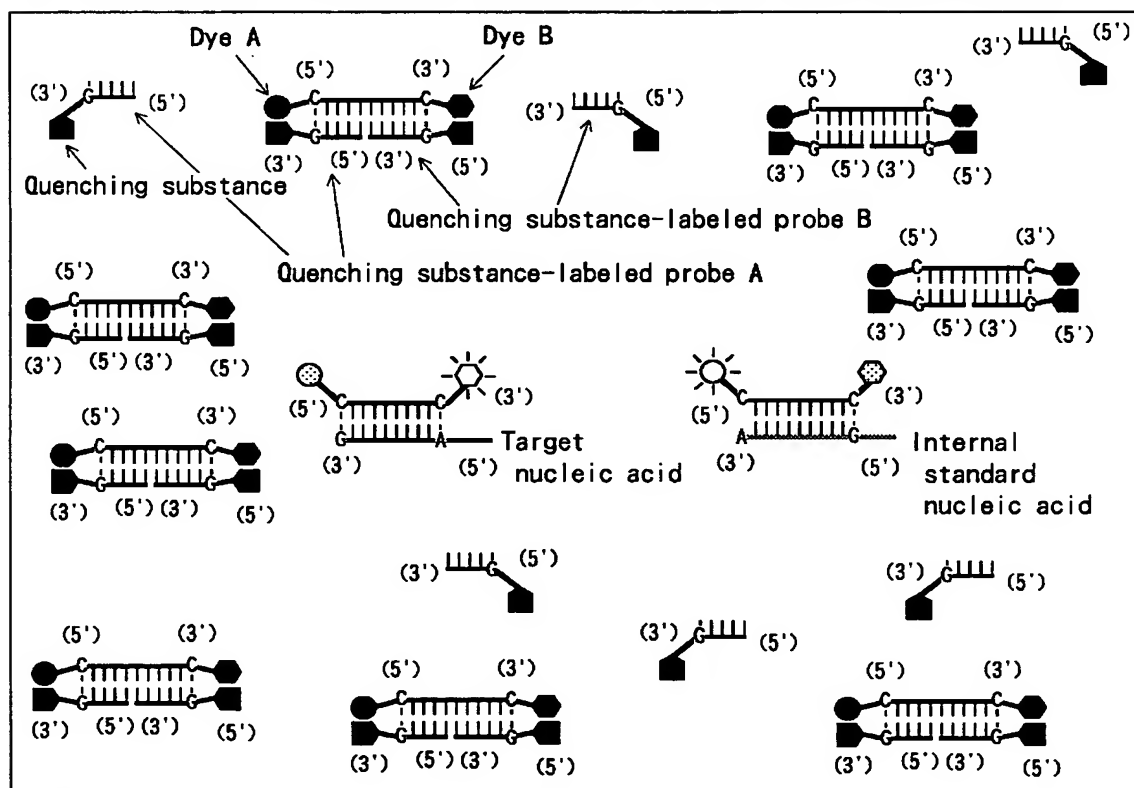
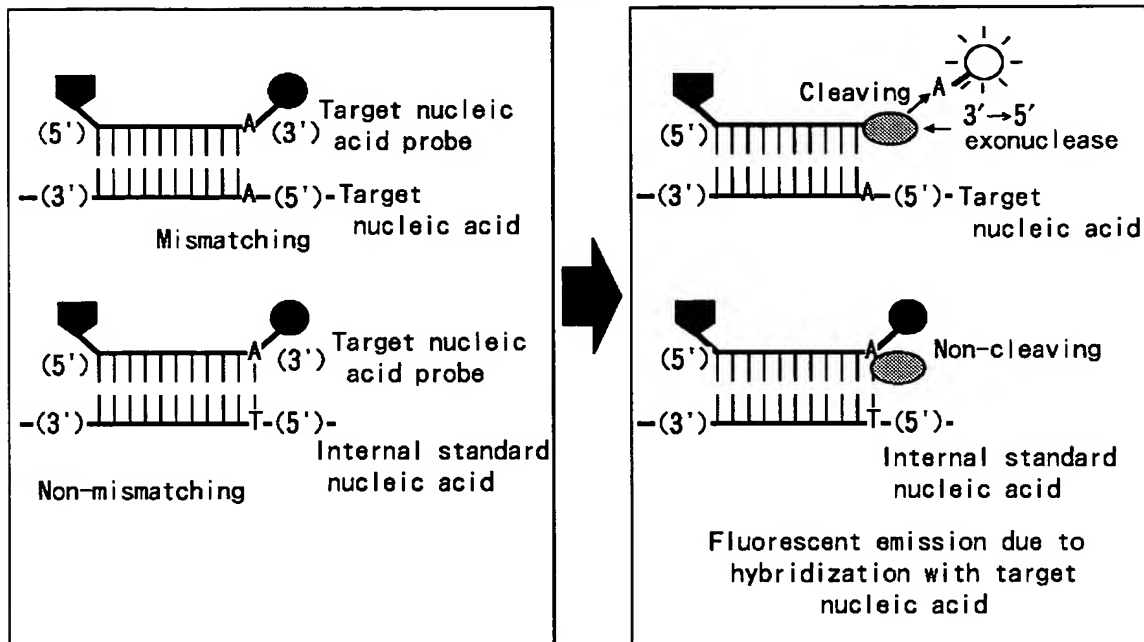


FIG. 18

A. In use of target nucleic acid probe



B. In use of Internal standard nucleic acid probe

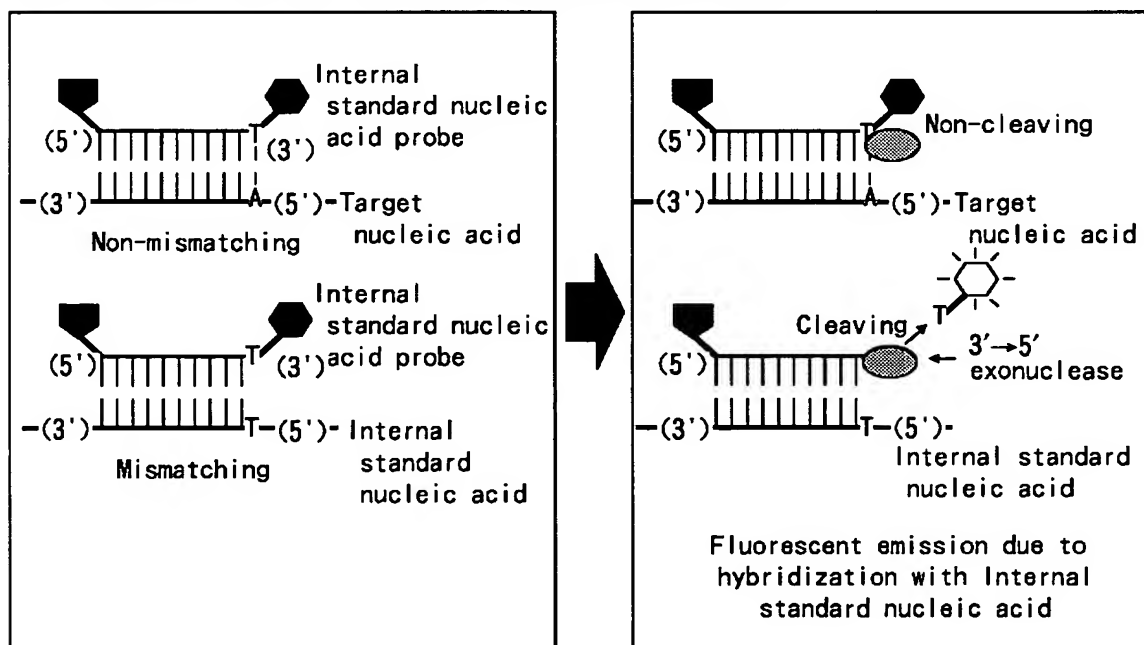


FIG. 19

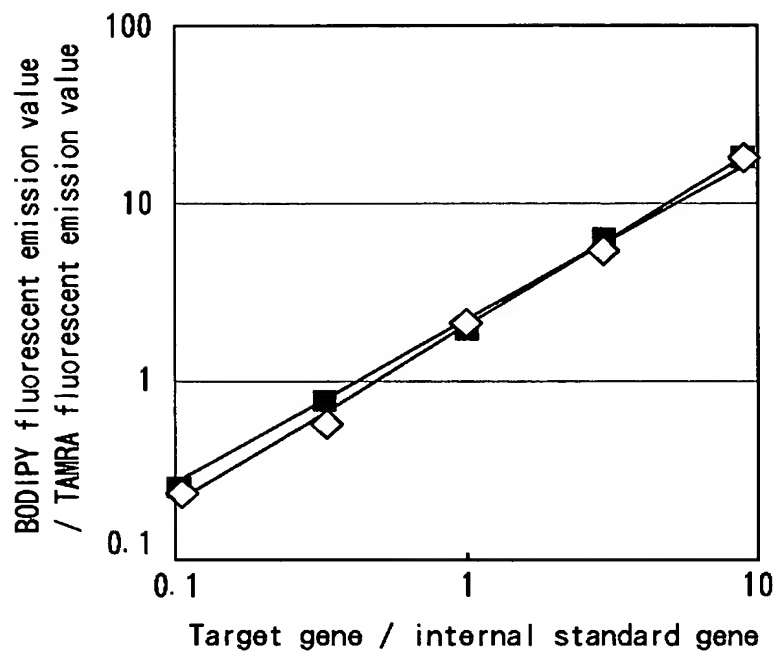


FIG. 20

